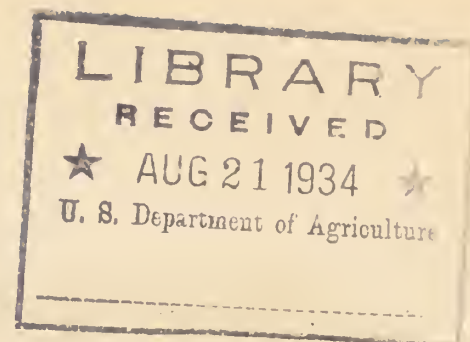


Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF HOME ECONOMICS
WASHINGTON, D. C.



Preparation and Use of Pectin Extracts

The household methods of extracting pectin from the white peel of oranges and lemons and the skins, cores, and pulp of apples to supply the deficiency in juice low in pectin has several advantages. When prepared according to the directions here given the extracts prove fairly reliable as to jelly making qualities and can be used in small and measured amounts. Since the essential ingredients are thus under control the results are much more certain than would otherwise be the case. Apple juice, with or without concentration, is a good source of pectin, and may be used with fruits lacking in pectin.

If it is desired to preserve the pectin made from these fruits to use at a later date, it should be poured into sterilized jars or bottles and sealed at once. Use pectin extract only with rich full flavored fruit juice which are lacking in natural pectin. Do not expect to prepare good jelly by adding pectin extract to fruit juices of inferior quality. That is to say pectin extracts should be used only when they improve the quality of the resulting jelly or make it possible to prepare jelly from fruits which could not otherwise be utilized for this purpose.

Citrus Pectin Extract From Fresh Peel

Choice of Fruit and Preparation. Thick skinned oranges and lemons are best for this purpose. The fruit should be washed and wiped dry; and the yellow rind, which would impart flavor, should be carefully pared off, using a knife that will not discolor the peel.

- 1 pound fresh white peel
- 2 quarts water for each extraction
- 1 tablespoon tartaric acid for each extraction

Add the acid to the water and stir until dissolved. Put the fresh peel through a meat grinder, using the coarse blade, then place it in a large flat bottomed pan to permit rapid boiling, cover with the acid solution, and allow it to stand for an hour or two. Measure the depth of the material in the pan. Boil the mixture rapidly and stir constantly until the volume is reduced to less than half. Strain through four thickness of cheesecloth. Two more extractions are made in the same way using 2 quarts of water and 1 tablespoon of tartaric acid to the pomace each time. It is not necessary for the mixture to stand after the first time. Mix the extractions together. There should be a little less than a pint of liquid from each extraction and the total amount from a pound of peel should be about 2-1/2 pints.

Apple Pectin Extract

Choice of fruit and Preparation. The fruit should be firm, and tart. Sound culls, or apples with surface blemishes or of poor shape are suitable for apple juice or apple pectin extract. Scrub the apples and cut in thin slices rejecting imperfect spots.

4 pounds apples

4-1/2 pints water for the first extraction

Place the apples and water in a large pan so as to allow rapid boiling. Cover and boil for 20 minutes. Strain through four thickness of cheesecloth until the juice ceases to drip. Repeat the process. The two extractions should amount to about 3 quarts. Boil this juice in a pan large enough so there will not be liquid more than 2 inches deep. Boil rapidly until the liquid is reduced to about 1/4 of its original volume; this usually requires from 30 to 40 minutes. There should be about 1-1/2 pints of the concentrated apple juice.

Use of the Pectin Extracts

Cherry Jelly with Added Pectin and Acid

1 cup cherry juice

1 to 1-1/4 cups sugar

4 tablespoons apple or lemon pectin
extract, or 6 tablespoons orange
pectin extract

To prepare the juice, thoroughly wash the cherries and remove the stems and pits. Place in a saucepan, adding one-fourth cup of water for each pound of fruit. Heat to boiling and boil 10 minutes. Strain through four thicknesses of cheesecloth. Mix the juice with the remaining ingredients in the proportions indicated and cook until the jelly test is reached.

The best jelly is made from rather sour cherries of high flavor. It is clear and has a red color and because of its tartness is especially suitable for serving with meat.

Jellied Sliced Peaches With Added Pectin and Acid

2 cups (1 pound) sliced peaches	1/2 cup apple pectin extract, extra
3-1/2 cups (1-1/2 pounds) sugar	strength, or 1/2 cup lemon or
	orange pectin extract

Use sweet, fully ripened fruit of rich flavor; it is essential to use fruit of the highest quality, if a superior product is to be obtained, since the flavor of the cooked preserve can not be expected to excel that of the raw material.

Peel the peaches and remove the pits, then slice very thin, about one-eighth inch in thickness. Measure this sliced fruit, add the sugar, and mix carefully. Heat slowly over a low flame or at the back of the stove, stirring constantly, until the juice flows freely and the sugar is dissolved. Then increase the heat and bring to a vigorous boil as rapidly as possible. A very short time of heating is essential if the fresh flavor is to be preserved. Boil hard for one minute with continual stirring. Remove from the fire and add the pectin. Mix well, skim if necessary, and pour at once into glasses.

The merit of this recipe lies in the fact that the characteristic flavor of fresh peaches is not destroyed by the short cooking, and is well preserved when the peaches are embedded in jelly. Even in those cases where the jelly fails to set well because of excess of juice or lack of pectin, the product should still be found worth while because of its superior flavor.

Strawberry Jelly With Added Pectin and Acid

1 cup strawberry juice	5 tablespoons apple or lemon pectin extract
1-1/4 cups sugar	or 6 tablespoons orange pectin extract

In order to extract the juice, add a few tablespoons of water to 1 pound of prepared fruit, or if the berries are quite ripe and mild in flavor, omit the water. Boil rapidly for a few minutes until the berries are soft. Strain through four thicknesses of cheesecloth.

Mix the juice thus extracted with the other ingredients in the proportions indicated above and boil rapidly until the jelly test is reached. The jelly should be bright red in color and should have a decided flavor of fresh strawberry.

If the berries are especially lacking in acid, 1 teaspoon of lemon juice may be added to each cup of strawberry juice.

Jellies from other berries. Jellies may be made from the juices of other berries by the same method as that described under strawberry jelly. Whether or not pectin is necessary or advisable for the making of raspberry and blackberry jellies depends entirely upon the condition of the fruit. In the case of red raspberries, its use for the purpose of shortening the time of cooking the berries is particularly advantageous from the standpoint of flavor.

Sweet Vinegar Jelly With Apple Pectin Extract

1 cup vinegar	2 cups sugar
1 cup water	Cloves, cinnamon, or other spices
3/4 cup apple pectin extract	if desired

If the vinegar happens to be one of unusually high or low acidity, the proportions of vinegar and water may have to be changed until a mixture of the desired degree of acidity is obtained. If the spices are to be used, place two to four 1-inch pieces of cinnamon and a clove in a small cloth bag and allow them to remain in the mixture for a few minutes during the cooking.

Combine all ingredients in the proportions indicated above, and boil until the jelly test is secured.